Abstract of the Disclosure

A device, system and method are disclosed for occluding a body lumen such a blood vessel having an inner wall. A blocking element is provided having an outer periphery with one or more grooves, recesses or depressions. A tube or lumen is used to interconnect the vacuum source to the grooves, recesses or depressions, such that the suction of the vacuum source causes a water-tight seal to be established between the periphery of the element and the inner wall of the body lumen. To bring the outer periphery of the blocking element in closer proximity to the inner wall of the body lumen, the element may be inflatable with a liquid or gas through a separate tube or lumen. A system-level implementation would include a source of vacuum along with the blocking element having an outer periphery with one or more grooves, recesses or depressions. Regardless of embodiment, a monitor may be provided for ensuring that the level of suction is within a desirable range. The system may further include a source of inflation to expand the element within the lumen, in which case a monitor may also be used for ensuring that the level of pressurization is within a desirable range. The blocking element may be introduced into the lumen via a puncture hole, with the suction and/or inflation tubing preferably extending outwardly from the same puncture hole. Alternatively, depending upon vessel size, the element may be introduced with a catheter, in which case the suction line and inflation line (if used) would be operated from the proximal end of the catheter outside the body.